Claims :

1. A programmable logic controller comprising:
   a single chip micro controller;
   internal RAM that is internal to said single micro controller; and
   internal re programmable read only memory that is internal to said single chip
   micro controller, the internal re programmable memory being used to store a user
   program for actualizing programmable logic controller functions.

2. A programmable logic controller program for directing a programmable
   logic controller, comprising:
   a user program; and
   system sequencing and coordination instructions necessary to operate said
   programmable logic controller, wherein said user program and system sequencing and
   coordination instructions are compiled together into a single executable firmware module
   of said programmable logic controller, requiring no external operating system.

3. A programmable logic controller system, comprising:
   a program execution device having a re programmable memory and whose
   function is limited to program execution of a programmable logic controller; and
   a separable communication/programming device, which provides the
   programmability function, wherein said communication/programming device provides in a
   separable package all functions required for external communication and conversion of a
   user program for controlling said programmable logic controller from symbolic form to
   binary code, and loading of that code into said program execution device and wherein said
   binary code is programmed into said re programmable memory of said program execution
   device by direct manipulation of logic controls of said re programmable memory.